PROJECT 4A

Butte County Integrated Watershed and Resource Conservation Program

1. Project Description

Project Type:	**Groundwater/surface water planning**
Location:	**Butte County**
Proponent(s):	**Butte County**
Project Beneficiaries:	**Butte County, individual landowners, downstream water users, Delta water needs**
Long-term Component:	**Continue environmental monitoring, public outreach programs. Identify and implement projects to allow Butte County to meet its water supply needs in the most reliable and secure way possible, while minimizing environmental impacts and making potential supplies available for export**
Potential Supply:	**To be determined from the water use forecast study; initial projections of water supply development include direct transfers of 40,000 acre-feet (ac-ft) (pilot projects) to 150,000 ac-ft in dry years**
Cost:	**$1,595,000 for ongoing activities associated with short-term components. Other costs of long-term component (including design and construction) to be determined on project-by-project basis during feasibility phase of projects.**
Current Funding:	**$950,000 potential total: $200,000 from State Water Resources Control Board (SWRCB); $750,000 (potential contract with California Department of Water Resources Integrated Storage Investigation [DWR-ISI])**
Short-term Component:	**Complete the Butte County Integrated Watershed and Resource Conservation Master Plan, forecast water uses, establish environmental monitoring program**
Potential Supply:	**None**
Cost:	**$1,150,000**

Current Funding:	**$950,000 potential total: $200,000 from State Water Resources Control Board (SWRCB); $750,000 (potential contract with California Department of Water Resources Integrated Storage Investigation [DWR-ISI])**
Implementation Challenges:	**Local concerns regarding export of groundwater, new permitting procedure for groundwater exports, impacts to terrestrial habitats, full financing not secured**
Key Agencies:	**Butte County Water Commission, Butte County Department of Water and Resources Conservation (DW&RC), SWRCB, DWR, Paradise Irrigation District (PID), Del Oro Water Company (DOWC)**

Summary

Butte County currently has adequate water resources available to meet demand within most areas of the county under normal hydrologic conditions. The county is in the Sacramento River basin where approximately 32 percent of the state's runoff occurs. Figure 4A-1 shows the location and several key features of Butte County, including major surface water bodies. Water users both inside and outside of the county continue to show interest in the county's management of water resources to meet demands both inside and outside of the county. Planning will be required to continue to meet the increasing and competing county water resource needs and to develop a further understanding of the resource as solutions to increasing statewide water demands. The Butte County Watershed and Resource Conservation Program (Program) has been proposed to improve the county's water management by integrating all important water management activities in an environmentally sound manner.

The proposed Program is intended to develop an integrated watershed management program in Butte County similar to the Southern California Integrated Watershed Management Program in the Santa Ana River watershed. The primary difference is that the Butte County program would be designed to improve water management in an area of origin, rather than in an area primarily reliant on imported water. The Program would identify urban, agricultural, and environmental water use projects that would help to ensure that drought year and future growth needs are met within Butte County. Groundwater monitoring and modeling efforts, which are crucial to the success of such a program, are discussed in detail in project evaluations 4B and 4C as part of the Sacramento Valley Water Management Agreement. The proposed Program would also help to make long-term conjunctive water management projects viable in Butte County, by creating a climate where Butte County residents can accept conjunctive management. Currently, the primary water source within the county is surface water (55 percent), followed by groundwater (31 percent) and surface water reuse (14 percent). These projects would be part of an Integrated Watershed Plan, which would promote the long-term economic and environmental health of the county.

The Program elements would include both short-term and long-term components. The components are described in more detail below. Funding is needed for the first five years of effort to develop the integrated watershed management program. At the end of the 5 years, the program would evaluated to determine if further work and additional funds are needed.

Short-term Component

Water Use Forecast

Butte County established the DW&RC in July 1999 to handle county water issues. In its first year of operation, DW&RC contracted with DWR for an inventory and analysis of Butte County water resources. The basic data gathered in the inventory will be used to document water supply, water demand, and water budgets for average water years and critically dry years. In order to develop rigorous forecasts, the existing data would be refined and trends analyzed using the Central Valley Production Model for agricultural water demand and the Municipal And Industrial Needs (MAIN) Model for urban water demand from the Corps of Engineers Institute for Water Resources. Butte County needs through the year 2030, including needs during drought years and for growth and gaps in supply, would be identified. A good assessment of future use will help ensure that Butte County can meet its own needs before exporting any water. Butte County has a draft contract negotiated with DWR for funding this analysis, but has not received final indication when or if funding will be provided.

Integrated Watershed and Resource Conservation Master Plan

One of the key elements of the Program is to complete the Program's Integrated Watershed and Resource Conservation Master Plan. Completion of the Master Plan would include the following:

- Integration and evaluation of existing watershed management plans for consistency
- Flood management feasibility studies
- Urban water management plans
- Agricultural water management plans
- Central Valley Regional Water Quality Control Board basin plan
- California Water Plan

Other tasks would include development of new conservation elements for the Butte County General Plan, development of an AB 3030 plan for areas not served by a water purveyor, and development of an integrated watershed plan including costs and benefits of the flood management, agricultural water use, urban water use, and environmental water use final program elements of the plan.

Augment Existing Staff

Additional staff (an estimated one to two people)would need to be hired over a 5-year period to assist existing staff with contract administration, project coordination, outreach activities, and preparation of reports for the Butte County Board of Supervisors and the Water Commission. This task presents a short-term component extending into a long-term component, since it is expected to last beyond 2003.

Facilitation and Public Outreach

A strong outreach strategy is critical to ensure that all stakeholder concerns are included and addressed in decision making, and that the public is well informed. This is the key to gain strong political and public support for all aspects of the program. Ultimately, this would lead to a broad acceptance of the Program and therefore help ensure its full success.

Facilitation and outreach would be achieved especially through public meetings with stakeholders groups and various sub-committees. Butte County plans to hire a firm under a subcontract to handle this facilitation effort. Facilitation efforts started in August 2000 by using an existing DWR facilitation contract focusing on the conjunctive use portion of the program. However, this scope was not broad enough to address the stakeholder involvement needed for the wide range of projects that may be in the Program. Newsletter articles would also be written and a website would be updated to offer more opportunities to inform the public.

Environmental Monitoring

The first step of the environmental monitoring is to design the monitoring program to establish baseline conditions of Butte County's terrestrial habitats and their water use using satellite or high altitude imagery. Reconnaissance-level terrestrial monitoring sites, shallow groundwater monitoring wells, and stream gauging stations would be established. The information gathered would be installed in a Geographic Information System (GIS).

The second step would consist of establishing an annual monitoring program through imagery and field examination of the monitoring sites in cooperation with Chico State University. An annual report on monitoring results would be prepared. The monitoring data ultimately would be used to estimate and evaluate potential impacts from conjunctive management and other water resource projects on terrestrial habitats to help with decision making and to minimize environmental impacts. Table 4A-1 summarizes the estimated schedule for the short-term component elements (including those with a long-term component), assuming that the project would be underway in April 2002

TABLE 4A-1
Estimated Project Schedule
Butte County Integrated Watershed and Resource Conservation Program

Program Element	Duration (years)	Beginning Estimate	Completion Estimate
Forecast Water Use for 2030	1	April 2002	April 2003
Completion of the Master Plan	1	April 2003	March 2004
Augment Existing Staff	5	April 2002	March 2007
Facilitation and Public Outreach	5	April 2002	March 2007
Environmental Monitoring Program Design	2	April 2002	December 2003
Environmental Monitoring Program Implementation	3	April 2004	March 2007
Program Management	2	April 2002	March 2004

Long-term Component

The primary purpose of this evaluation is to evaluate the potential for this project to provide water supply benefits in the short-term (by end of 2003). As part of this initial evaluation, potential long-term components of the proposed project (defined as any part of the project proceeding past or initiated after December 2003) have been considered on a conceptual

level. Further consideration and technical evaluation of long-term component feasibility and cost will occur as the next level of review under the Sacramento Valley Water Management Agreement. Long-term-component project descriptions are included in these short-term project evaluations only as a guide to the reader to convey overall project intent.

The short-term component of the Program focuses on understanding current and future water needs of Butte County, particularly in regard to future growth and droughts periods for the next 30 years. The goal of the long-term component is to identify and determine the feasibility of projects that will allow Butte County to meet its water supply needs in the most reliable and secure way possible, while minimizing environmental impacts and if possible enabling other water purveyors to transfer water. This means that the projects mentioned above will be evaluated (feasibility study) in order to select the best alternatives possible for increased water supply.

Feasibility Studies

Based on the results of the short-term components, various projects will be identified for study and possible implementation to provide additional water supply in Butte County. In general, feasibility studies arising out of the Integrated Watershed and Resource Conservation Master Plan are expected to start in April 2004 and be completed in March 2006. Several possible projects have already been identified and are described below.

- **Paradise Dam Raising**: Paradise Irrigation District (PID), located in Butte County, was formed in 1916 and is approximately 11,250 acres in size, currently serving 10,000 connections and 25,772 people. An approximately 20-percent growth through 2020 is anticipated to occur in the PID, as explained in the Paradise General Plan, resulting in approximately 31,000 total residents.

  Currently, Paradise does not have supply problems in normal runoff years, but is vulnerable to several dry years in a row. In addition, Paradise is surrounded by the Del Oro Water Company (DOWC) service area, and is potentially impacted by its supply problems. Several different projects are being considered to address these issues, including increasing the capacity of the Paradise Reservoir by raising the dam.

  In 1956, PID constructed the Paradise Dam and Reservoir with a storage capacity of 8,350 ac-ft to address the area's significant population growth and the limitations of the district's insufficient water storage and distribution system capacity. The dam was raised by 24.5 feet in 1976, which increased the capacity to 11,497 ac-ft.

  As mentioned above, Paradise anticipates significant growth through 2020. The raising of Paradise Dam is intended to enhance the reservoir's storage capacity to supply extra water to the PID service area, especially during drought periods. PID is currently working on the feasibility study and expects to complete it in March 2003. If the project is determined to be feasible, PID would proceed with design, permitting and construction of the project, and would need to identify funding mechanisms for these efforts. . The additional storage volume to be created by the dam raising would be identified after the water use forecast is complete.

- **Paradise Ridge Pipeline Water Supply:** A project that could bring additional supply to the Paradise Ridge area is a pipeline from Lake Oroville. This would be done in

conjunction with providing new supplies for DOWC's Lime Saddle District, which had previously been served by the former Lime Saddle Community Services District. The overall project would include additional treatment capacity at the existing DOWC or PID/Magalia plant or at a new plant in Lime Saddle, as well as transmission to Paradise through a new, approximately 1-cubic foot per second south-to-north intertie. This 2-mile pipeline is a connection between previously built pumping and treatment facilities at the south end of DOWC's Lime Saddle District and the north end of the Lime Saddle District abutting PID's service area. The treatment capacity would be sufficient to meet Lime Saddle 2020 maximum-day demands, and free up some water for use in Paradise Pines.

As with the Paradise Dam raising project, the Paradise Ridge Pipeline Water Supply project would be done in four phases. The reconnaissance phase was completed during 1999 by DOWC. Additional supply from Lake Oroville appears to be promising so the additional phases should be completed. Del Oro Water Company currently is seeking funding for the final engineering design of the project. The quantity of water to be supplied by the pipeline (currently estimated at 135 ac-ft/yr) would be identified after the final design is complete.

Some concerns that would need to be addressed with this project include the quality of water from Lake Oroville because the intake is located in a marina and the reliability of SWP water in drought years when Butte County's demand for SWP water could be highest but available supplies lowest. These concerns are discussed under Environmental Issues and Implementation Challenges.

- **Miocene Canal/Oroville Swap.** This project would involve pumping water from PG&E's Miocene Canal for treatment and distribution into the Magalia area. The water pumped would be replaced by pumping SWP water into Kunkle Reservoir so power generation would not be reduced in PG&E's Lime Saddle hydro-electric facility. There is a proposal to do a preliminary pre-engineering investigation which should be completed by March 2002 and include schedule, phases and milestones.

- **Initial Conjunctive Management/In lieu Recharge Investigation Using SWP Water** A conjunctive management project typically includes both recharge and recovery components. The aquifer system is recharged during years when additional surface water supplies are available. This water is then recovered during drought or other years when surface water supplies are diminished. Because this project is intended to test the various conjunctive management operational components in Butte Basin,both project recharge and project recovery would occur during each year of the demonstration projects, regardless of the year type or the availability of surface water supplies.

  Intentional recharge to an aquifer system can be done by either direct or in lieu methods. Direct recharge is where surface water is allowed to pond in shallow basins and percolate directly to the aquifer system. In lieu recharge, on the other hand, is accomplished by reducing extractions from the aquifer system when surface water is available, thereby allowing it to recharge from natural infiltration of surface water sources.

Direct recharge to the groundwater system is not considered feasible in the proposed project area because typical surface soils have very low infiltration rates. Therefore, project recharge would be completed by in lieu methods. Groundwater monitoring would be used to help assess impacts of the investigation. An area would be identified to receive supplemental surface water supply to replace part or all of thecurrent groundwater use. An investigation project in this area would test the feasibility and effectiveness of in lieu recharge of the lower aquifer system. The quantity of surface water that would be provided annually to the local participants in the in lieu recharge program at no cost by the DWR would be approximately 10,000 ac-ft. The Conjunctive Management/In lieu Recharge project would be done in four phases. The reconnaissance phase would be conducted during 2002 and represents a critical decision point. If a conjunctive management/in lieu recharge investigation project does not appear to be promising at the end of the reconnaissance study, the additional phases would not be completed. Otherwise, the project would continue with the feasibility study phase in 2004, the end of which represents another critical decision point. Only if the project appeared to be feasible at the end of this next study would work continue with design/permitting and construction.

2. Potential Project Benefits/Beneficiaries

The data provided would allow Butte County and others to ensure that conjunctive management and water transfers do not have adverse effects to the county and individual landowners. Improved management of the local groundwater resources could in turn provide numerous benefits to Butte County water users, downstream water users, and Delta water needs. There would be no direct water supply, water management, environmental, or water quality benefits resulting from the short-term component of this project. However, this project could result long-term in projects with the following physical benefits.

Water Supply Benefits

Paradise Ridge Area

Together with the Upper Ridge area, Paradise Ridge contains 25 percent of the county's population. Water supply is a continuing problem in all areas during drought, and in some areas under normal weather conditions. The project would increase reliability of water supply and benefit fire protection in the Paradise Ridge area.

Butte County Agriculture

Butte County's agricultural economy, providing over $1 billion to the overall economy, plays a crucial role within the region. Innovative agricultural water management strategies are practiced by many growers in Butte County. The project would increase the overall reliability of water supply in the county, which would benefit the agricultural economy. In addition, if an in lieu groundwater recharge program proves to be feasible, surface water supplies may become available to farms currently using groundwater.

Environmental Water Users

Water made available through a developed conjunctive management project could be used to meet environmental demands in the Delta or other water bodies in Butte County. Increased groundwater pumping could result in reduced surface water diversions, which would help meet water quality standards in the Delta.

Water Management Benefits

This project focuses on developing the Program for proper conjunctive management of surface water and groundwater supplies within Butte County. Proper management and an understanding of the impacts of increased groundwater development will be critical if any proposed conjunctive management projects are to be implemented.

An integrated and well-coordinated implementation of all of the Program's elements is critical to ensure that no local water users are negatively impacted and that water quality remains high for all Butte County water users.

Environmental Benefits

Based on the data accumulated and analyzed to date, it can be assumed that environmental water demands will continue to increase. Also, the environmental monitoring program would allow Butte County to better understand the impacts that conjunctive management projects and other projects related to water management have upon the environment.

Water Quality Benefits

Water quality parameters would likely be measured and included in the groundwater data monitoring program. Monitoring would help establish a baseline for groundwater quality and possibly identify sources of contamination. Increased in-stream flows may provide water quality benefits. Agricultural and urban water conservation efforts may also reduce and improve the quality of return flows.

3. Project Costs

The cost opinions shown, and any resulting conclusions on project financial or economic feasibility or funding requirements, have been prepared for guidance in project evaluation from the information available at the time of the estimate. It is normally expected that cost opinions of this type, an order-of-magnitude cost opinion, would be accurate within +50 to -30 percent. Project costs were developed at a conceptual level only, using data such as cost curves and comparisons with bid tabs and vendor quotes for similar projects. The costs were not based on detailed engineering design, site investigations, and other supporting information that would be required during subsequent evaluation efforts.

The final costs of the project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final project scope, implementation schedule, continuity of personnel and engineering, and other variable factors. As a result, the final project costs will vary from the opinions presented here. Because of these factors, project feasibility, benefit/cost ratios, risks, and funding needs

must be carefully reviewed prior to making specific financial decisions or establishing project budgets to help ensure proper project evaluation and adequate funding.

Table 4A-2 lists the cost breakdown for the various short-term program elements. The groundwater monitoring and modeling costs are described in detail in projects 4B and 4C.

TABLE 4A-2
Program Component Implementation Costs
Butte County Integrated Watershed and Resource Conservation Program

Task	Short-term cost ($) (through 2003)	Long-term cost ($) (after 2003)
Forecast Water Uses		
Prepare forecasts using the Central Valley Production Model for agricultural water demand	60,000	None
Prepare forecasts using Institute for Water Resources MAIN Model for urban water demand	60,000	None
Develop Basin Management Objectives (BMO)	80,000	None
Complete drought management plan	50,000	None
Complete the Butte County Integrated Watershed and Resource Conservation Master Plan	285,000	None
Augment Existing Staff	175,000	265,000
Facilitation and Outreach Contract	70,000	220,000
Environmental Monitoring Program		
Initial contract to establish baseline conditions	110,000	None
Ongoing monitoring costs (approximate, to be based on initial contract findings)		1,110,000
Project Management	60,000	None
Feasibility Studies		
Paradise Dam Raising		TBD
Paradise Ridge Pipeline Water Supply		TBD
Miocene Canal/Oroville Swap		TBD
Initial Conjunctive Management and In lieu Recharge Investigation/ State Water Project Use	200,000	TBD
Total Project Cost (not including Feasibility Studies):	**1,150,000**	1,595,000

The Program has applied for $950,000 from DWR and SWRCB to support implementing the elements listed above. Of this $950,000, $200,000 is a grant already obtained from the SWRCB Prop. 13 Watershed Program to be used to defray two years of administrative costs that include hiring of a watershed coordinator and staff support. The $750,000 has not yet been secured from DWR. The county is seeking an additional $950,000 from the Phase 8 program to complete the short-term components of the Program, if the DWR funds do not come through. If the $750,000 from DWR is secured, then the county would need an additional $200,000 for the short-term Program components.

4. Environmental Issues

Most of the short-term components are studies or public outreach activities that would not result in direct environmental impacts, although the results of the studies will help to analyze and mitigate impacts from long-term projects. The environmental monitoring program will be designed in consultation with appropriate resource agencies, including California Department of Fish and Game and U.S. Fish and Wildlife Service. The monitoring

activities themselves are not anticipated to have any significant environmental issues or impacts. It is anticipated that the appropriate level of environmental documentation for the project would be a Categorical Exclusion/Categorical Exemption, requiring a very minimal degree of effort.

In the long-term, the Program may include large capital improvement projects involving complex legal and environmental issues such as water rights, water transfers, groundwater development, property acquisition, endangered species impacts, and streambed alterations. These capital projects would require extensive environmental coordination through the preparation of an Environmental impact study/environmental impact report (EIS/EIR) and resultant mitigation to address construction-related and operational impacts. In general, projects would be designed and implemented to avoid or minimize these impacts to the maximum extent possible and to enhance the environment, though specific environmental mitigation measures are unknown at this time.

Specific conjunctive management programs may have impacts on terrestrial environments. The environmental monitoring program will be designed to estimate and evaluate these impacts.

Concerns have been voiced about the quality of water from Oroville, particularly from the Lime Saddle Marina, which is one of the areas from where water could be withdrawn. Of particular concern is the fact that the intake to the DOWC system is submerged in a marina area containing many watercrafts. A major constituent of concern is methyl tertiary butyl ether (MTBE), a fuel oxygenate added to gasoline to reduce air pollution and increase octane rating. Within the last years, MTBE has become a widespread concern in surface and groundwater quality in California.

A draft California Environmental Quality Act (CEQA) environmental checklist has been prepared for this proposed project and is included as an attachment to this evaluation. The checklist provides a preliminary assessment of the environmental areas of concern, as well as areas that are not likely to be of concern, associated with this project. The checklist would be finalized as part of the environmental compliance required for project implementation.

5. Implementation Challenges

There are serious concerns about the long-term drawdown of the groundwater table and land subsidence as a result of any conjunctive management program. The proposed program would help determine the effects of increased groundwater pumping. Local involvement would be required to get any conjunctive management project implemented

Long-term exporting of in-basin water supplies is a very sensitive political issue. Estimates of local benefits and exported water would have to be a part of any future conjunctive management program. The local opposition would likely increase if the water is developed primarily for export. The incorporated public outreach component would be critical to adequately address public perception.

Because of a controversial drought water transfer that took place in 1994, Measure G for groundwater protection was passed in 1996. Measure G established a new permitting process required to transfer water out of the basin. Permit approval is granted by Butte

County, but to date no transfers have taken place to test the permitting process. There could be unanticipated political issues or scheduling delays because of the new process.

Key Stakeholders

Table 4A-3 describes some of the key stakeholders that would be involved with the implementation process. These stakeholders would likely be involved regarding the impacts and benefits of future conjunctive management projects.

TABLE 4A-3
Stakeholder Roles and Issues
Butte County Integrated Watershed and Resource Conservation Program

Stakeholder	Role	Issues
Butte County Department of Water and Resource Conservation	Program lead	Quantify potential for development, safe yield, protect existing surface water rights, overdraft, land subsidence; Provide groundwater data
Butte County Water Commission	Groundwater developer	Make sound decisions associated with potential conjunctive management projects
State Water Resources Control Board	Permitting oversight	Water quality
PID, DOWC	Potential long-term project participants	Coordination with project(s) to bring water to Lime Saddle area, consistency with Memorandum of Understanding
Other irrigation districts, cities, landowners	Groundwater user	Groundwater levels
South-of-Delta exporters	Potential users of new supply	Availability of new water for export
Various locals interest groups	Protect local economy	Export of new water
Environmental interests	Habitat protection for Sacramento River and Delta, water quality in Lake Oroville	Effect on Sacramento River and Delta inflow: timing, temperature, quantity; potential MTBE in Lake Oroville
Butte Basin Water Users Association	Surface water suppliers	Annual Groundwater Report

6. Implementation Plan

This project is ready to proceed upon complete funding. Assuming that the project would begin in April 2002, the estimated completion date for the short-term components is December 2003. Implementation of several of the short-term components will extend through March 2007. Dates for the feasibility studies are less firm; however, the conjunctive use portion of the program is already moving forward and could result in a project by spring 2004.

The Integrated Watershed and Resource Conservation planning efforts would be coordinated with the Butte County Groundwater Monitoring and Modeling programs. The long-term component projects would be coordinated with efforts to provide additional water supply to the Lime Saddle area.

Figure 4A-2 shows the schedule for the program elements. The short-term elements are assumed to be completed by December 2003, with ongoing implementation activities extending into 2007.

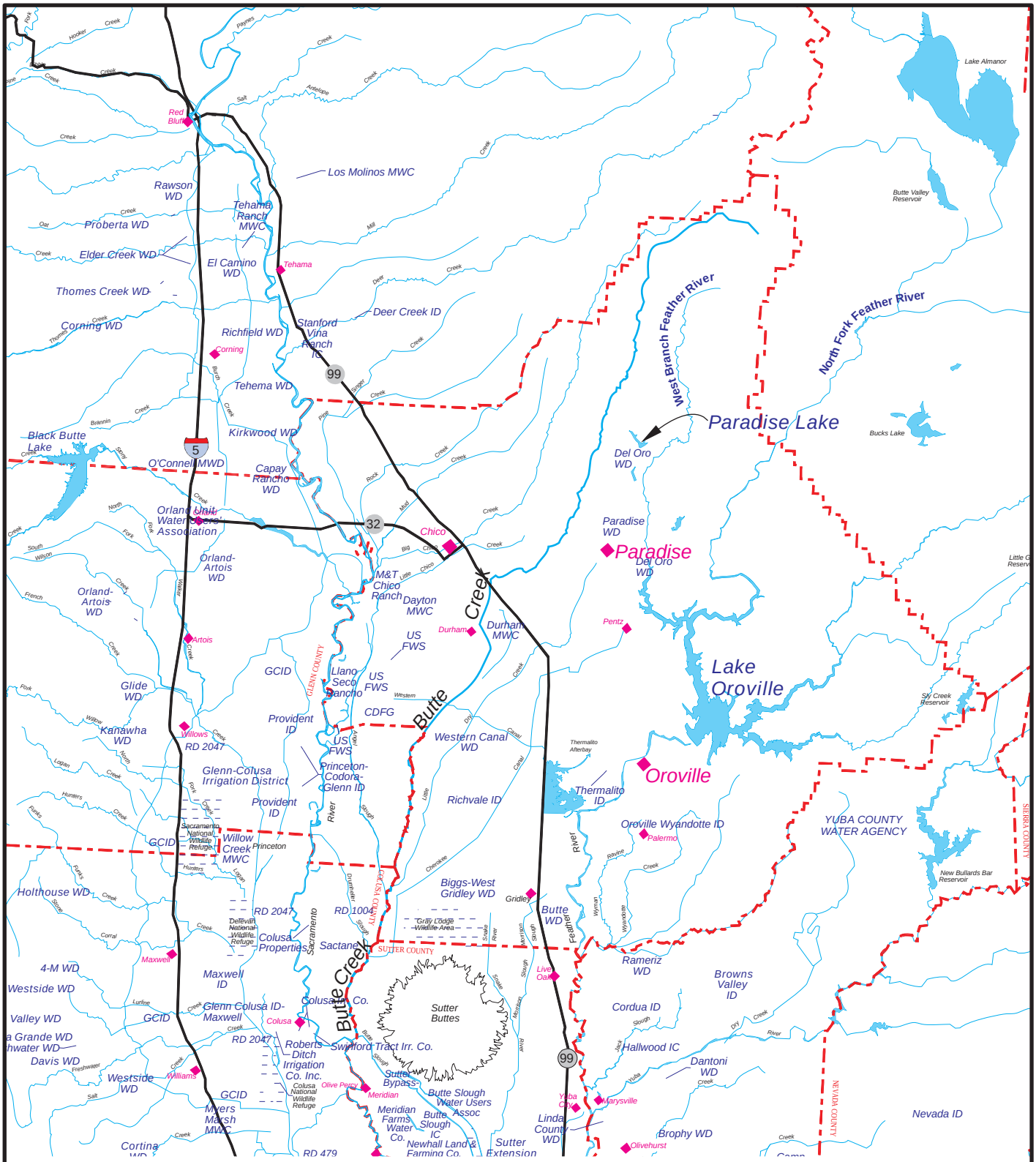


FIGURE 4A-1
PROJECT LOCATION MAP

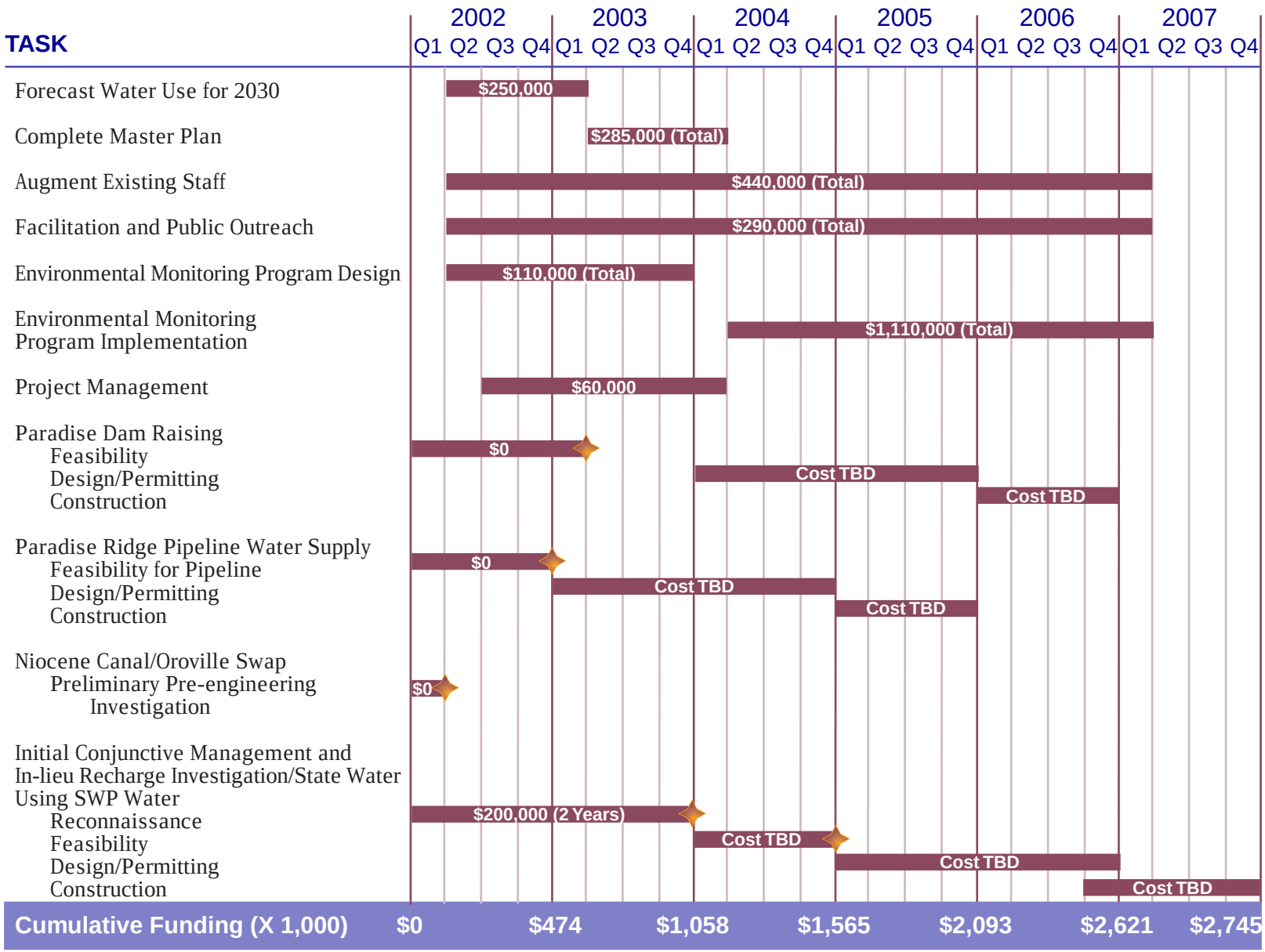
BUTTE CO. INTERGRATED WATERSHED AND RESOURCE CONSERVATION PROGRAM

SHORT-TERM PROJECT EVALUATIONS

SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT

CH2MHILL
in association with
MONTGOMERY WATSON HARZA
MBK
SWRI

W072001014RDD_35 (10/26/01)



LEGEND

DECISION POINT

TBD TO BE DETERMINED

FIGURE 4A-2
PRELIMINARY IMPLEMENTATION SCHEDULE
BUTTE CO. INTEGRATED WATERSHED AND RESOURCE CONSERVATION PROGRAM
SHORT-TERM PROJECT EVALUATIONS
SACRAMENTO VALLEY WATER MANAGEMENT AGREEMENT

CH2MHILL
in association with
MONTGOMERY WATSON HARZA
MBK
SWRI

W072001014RDD_10 (10/30/01)

Project 4A—Draft CEQA Environmental Checklist

Project 4A—Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

Determination:

(To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____ _____

Printed Name For

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. AGRICULTURE RESOURCES—Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☒	☐
III. AIR QUALITY—Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES—Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
Reconnaissance-level terrestrial monitoring sites, shallow groundwater monitoring wells, and stream gauging stations would be established. These wells and gauging stations may need to be placed in environmentally sensitive areas. The wells and gauging stations would be sited to minimize any disruption of local habitat areas.				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
See response to IV (a) above.				
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act, (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or, impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
See response to IV (a) above.				
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?.	☐	☐	☒	☐
V. CULTURAL RESOURCES—Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
A significant impact would occur if a cultural resource were to be disturbed by activities associated with project development. In the event that an archaeological resource was discovered, appropriate measures would be undertaken to minimize any impacts.				
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
See response to V (a) above.				
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
See response to V (a) above.				

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
See response to V (a) above.				
VI. GEOLOGY AND SOILS—Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
VII. HAZARDS AND HAZARDOUS MATERIALS—Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
Construction equipment would require the use of potentially hazardous materials. The potential for significant hazardous material spill would be unlikely because of the limited amount of such materials that would be used onsite. If a spill or release of such materials were to occur, it could potentially be significant unless best management practices (BMP) were implemented.				
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
See response to VII (a) above.				

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
VIII. HYDROLOGY AND WATER QUALITY— Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). *There are serious concerns about the long-term draw-down of the groundwater table and land subsidence. Model development would help in determining the effects of increased groundwater pumping. Minimal pumping of groundwater would occur as a result of the monitoring program and model development; however the impact is considered less than significant to groundwater supplies.*	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
IX. LAND USE AND PLANNING—Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐
X. MINERAL RESOURCES—Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XI. NOISE—Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. *Short-term noise levels are expected to increase for the duration of construction of each monitoring well. These noise increases would be temporary, and mitigation measures would be implemented to reduce any impact to a less than significant level.*	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. *See response to XI (a) above.*	☐	☒	☐	☐

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XII. POPULATION AND HOUSING—Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIII. PUBLIC SERVICES—Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐
XIV. RECREATION—Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC—Would the project:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒
XVI. UTILITIES AND SERVICE SYSTEMS—Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐